

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-15 (Canceled).

Claim 16 (New) A variable gain amplifying method comprising:

supplying to a variable gain amplifier an input signal and a feedback signal from a feedback circuit to amplify a difference between the input signal and the feedback signal; and decreasing a cutoff frequency of the feedback circuit with an increase in a gain of the variable gain amplifier circuit or vice versa.

Claim 17 (New) The method according to claims 16, which includes supplying, as the feedback signal, only a predetermined low frequency component in frequency components of an output signal of the variable gain amplifier circuit.

Claim 18 (New) The method according to claims 16, which includes increasing the gain of the variable gain amplifier circuit and decreasing the cutoff frequency of the feedback circuit simultaneously or decreasing the gain of the variable gain amplifier circuit and increasing the cutoff frequency of the feedback circuits simultaneously.

Claim 19 (New) The method according to claim 16, wherein the feedback circuit comprises an operational amplifier, a variable capacitor and a first resistor which are connected in parallel between an inverting input terminal and output terminal of the operational amplifier, and a second resistor connected between the inverting input terminal of the operational amplifier and an output terminal of the variable gain amplifier circuit, a capacitance of the variable capacitor increasing with an increase in the gain of the variable

gain amplifier and decreasing with a decrease of the gain of the variable gain amplifier.

Claim 20 (New) The method according to claim 16, wherein the feedback circuit comprises an operational amplifier, a capacitor and a first resistor whose resistance is variable and which are connected in parallel between an inverting input terminal of the operational amplifier and an output terminal thereof, and a second resistor connected between the inverting input terminal of the operational amplifier and an output terminal of the variable gain amplifier circuit, the resistance of the first resistor increasing with an increase in the gain of the variable gain amplifier and decreasing with a decrease in the gain thereof.

Claim 21 (New) The method according to claim 20, wherein the second resistor comprises a resistor whose resistance is variable, the resistance of the first resistor and the resistance of the second resistor increasing with an increase in the gain of the variable gain amplifier and decreasing with a decrease in the gain thereof as a constant resistance ratio is kept between the first resistor and the second resistor.

Claim 22 (New) The method according to claim 16, wherein the feedback circuit comprises a first voltage-current converter, a capacitor connected to an output terminal of the first voltage-current converter, and a second voltage-current converter whose mutual conductance is variable and which includes an input terminal connected to the capacitor and an output terminal, the input terminal and the output terminal being short-circuited, and the mutual conductance of the second voltage-current converter decreasing with an increase in the gain of the variable gain amplifier circuit or vice versa.

Claim 23 (New) The method according to claim 22, wherein a mutual conductance of the first voltage-current converter is variable, the mutual conductance of the first voltage-current converter and the mutual conductance of the second voltage-current converter decrease at the same rate with an increase in the gain of the variable gain amplifier circuit or vice versa.

Claim 24 (New) The method according to claims 16, wherein the variable gain amplifier comprises a variable gain amplifier circuit to amplify a difference between the input signal and the feedback signal, a feedback circuit to supply the feedback signal to the variable gain amplifier circuit, and a controller to control a cutoff frequency of the feedback circuit.

Claim 25 (New) A variable gain amplifying method comprising:

supplying to a variable gain amplifier circuit an input signal and a feedback signal from a feedback circuit to amplify a difference between the input signal and the feedback signal; and

controlling the gain of the variable gain amplifier circuit and a cutoff frequency of the feedback circuit to make a lower limit frequency of the output signal substantially constant regardless of variation of a gain of the variable gain amplifier circuit.

Claim 26 (New) The method according to claim 25, which includes generating, as the feedback signal from the feedback circuit, only a predetermined low frequency component in frequency components of an output signal of the variable gain amplifier circuit.

Claim 27 (New) A variable gain amplifying method comprising:

supplying to a variable gain amplifier circuit an input signal and a feedback signal from a feedback circuit to amplify a difference between the input signal and the feedback signal, a gain of the variable gain amplifier circuit being varied according to a level of at least one of the output signal and the input signal; and

varying a cutoff frequency of the feed back circuit according to a variation of the gain of the variable gain amplifier circuit to make a lower limit frequency of the output signal substantially constant.

Claim 28 (New) The method according to claim 27, which includes generating, as the feedback signal from the feedback circuit, only a predetermined low frequency component in frequency components of an output signal of the variable gain amplifier circuit.